REPORT

OF THE

INDIAN TARIFF BOARD

ON THE

LIVER EXTRACT INDUSTRY

BOMBAY
1950

PRINTED IN INDIA FOR THE MANAGER, GOVERNMENT OF INDIA PUBLICATION BRANCH, DELHI BY THE MANAGER, COMMERCE MINISTRY PRESS, NEW DELHI.

PERSONNEL OF THE BOARD

Dr. H.L. DEY, D.Sc. (Lond.) ·	*President.*
Dr. B.V. NARAYANASWAMY NAIDU, M.A., B.Com., Ph.D., Barrister-at-Law.	*Member.*
Mr. B.N. ADARKAR	*Member.*
Mr. R. DORAISWAMY	*Secretary.*

PERSONNEL OF THE PANEL WHICH HEARD THE CASE

Dr. H.L. DEY, D.Sc. (Lond.)	*President*
Dr. B.V. NARAYANASWAMY NAIDU, M.A., B.Com., Ph.D., Barrister-at-Law	*Member*

CONTENTS

APPENDICES

(4) Samples of liver extract produced by the different manufacturers should be collected by the inspectors and forwarded to the Haematological Units for clinical tests. A few more Haematological Units should be established at an early date in order to test the products of all the manufacturers at frequent intervals.

(5) The Ministry of Health, Government of India, should draw up a list of approved manufacturers and encourage the use of their products in the Government hospitals throughout the country.

(6) The Municipalities concerned should maintain proper hygienic conditions and examine the possibility of providing cold storage facilities at the slaughter houses from which raw liver is supplied for the liver extract industry.

3. Government accept recommendation (1) and also the other recommendations in principle and steps will be taken to give effect to them as far as possible. Recommendation (6) will also be brought to the notice of the States concerned.

GOVERNMENT OF INDIA
MINISTRY OF COMMERCE
New Delhi, the 12th August, 1950.

RESOLUTION
(Tariffs)

No. 8(8)-T.B./50:- The claim of the liver extract industry for protection or assistance was referred to the Tariff Board for investigation and report in May, 1949. The Board has submitted its report. The scope of the enquiry includes oral and injectible liver extracts and their compounds.

2. The Board's recommendations are as follows:-

(1) There is no case for protection to the liver extract industry, the fair selling prices of the indigenous products being appreciably below the landed costs, ex-duty, of comparable imports.

(2) Licences for imports of such vitamins as are required for the preparation of liver extract compounds should be liberally granted.

(3) The inspection of liver extract factories under the Drugs Control Act should be more systematic so as to ensure that the B.P. Standards are strictly adhered to by the manufacturers and that proper hygienic conditions are maintained throughout the manufacturing process.

REPORT ON THE LIVER EXTRACT INDUSTRY

Application for protection and reference to the Board.

1. An application for protection to the liver extract industry was made by the Andhra Pharmaceutical Works, Ltd., Bezwada, in their letter No. 2452/47, dated 28th July 1947, addressed to the Secretary to the Government of India, Ministry of Commerce. On the basis of this application, the Government of India, Ministry f Commerce in their Resolution No.1-T(4)/49, dated 12th May 1949 (*vide* Appendix I), read with paragraphs 2 and 7 of their Resolution 218-T(55)/45, dated 3rd November 1945, and paragraph 4 of their Resolution bearing the same number, dated 16th February 1946, referred the claim of the liver extract industry for protection or assistance to the Board for investigation and report.

Terms of reference.

2. Under the terms of reference contained in the Government of India Resolution, dated 3rd November 1945, the Board has to satisfy itself:

(i) that the industry is established and conducted on sound business lines;

(ii) (a) that having regard to the natural or economic advantages enjoyed by the industry and its actual or probable costs, it is likely within a reasonable time to develop sufficiently to be able to carry on successfully without protection or state assistance; or

(b) that it is an industry to which it is desirable in the national interest to grant protection or assistance and that the probable cost of such protection or assistance to the community is not excessive.

Where a claim for protection or assistance is found to be established, that is, if conditions (i) and (ii) (a) or (b) are satisfied, the Board may recommend:

(i) whether, at what rate and in respect of what articles, or class or description of articles, a protective duty should be imposed;

(ii) what additional or alternative measures should be taken to protect or assist the industry; and

(iii) for what period, not exceeding three years, the tariff or other measures recommended should remain in force.

In making its recommendations, the Board has to give due weight to the interests of the consumer in the light of the prevailing conditions and also consider how the recommendations affect industries using the articles in respect of which protection is to be granted.

Method of inquiry.

3. On 6th June 1949, the Board issued a press note, notifying the public of this reference and stating that a preliminary questionnaire for producers of the article was ready for issue. On 21th June 1949, copies of the preliminary questionnaire were issued to all the known producers. On 12th December 1949, another press note was issued, stating that detailed questionnaires for producers, importers and consumers were ready and that firms, associations and others, who were interested in this industry or in the use of its products, might obtain copies of the questionnaires from the Secretary to the Board. A list of firms, persons and associations, to whom relevant questionnaires were issued and those who replied to them or sent memoranda, will be found in Appendix II. Mr. G.L. Mehta, the then President of the Board, and Mr. S.S. Mehta, Technical Adviser to the Board, visited Alembic Chemical Works, Baroda, on 15th January 1950; Dr. B.V. Narayanaswamy Naidu, Member, visited the same Works on 1st May 1950;

Mr. S.S.Mehta, Technical Adviser, visited the Cipla Factory, Bombay, on 6th December 1949, and Andhra Pharmaceutical Works, Vijayawada, from 22nd to 24th April 1950. Mr.N. Krishnan, Cost Accounts Officer attached to the Board, examined the costs of production at Alembic Chemical Works and Andhra Pharmaceutical Works during the month of April 1950. A public inquiry was held at the Board's office in Bombay on 9th May 1950. A list of the persons who attended the inquiry and gave evidence will be found in Appendix III.

Scope of the inquiry.

4. Liver extract, which is also otherwise known as extract hepatis, can be administered either orally or by injection. The extract, however, is for the most part marketed in the form of compounds. The scope of the present inquiry, therefore, includes oral and injectible liver extracts and their compounds.

History of the industry.

5. From information compiled by the Board's office, it is found that liver extract was first produced in India in 1930 by two pharmaceutical works in Calcutta. By 1937, four more firms, one being located at Baroda, one at Vijayawada and two at Calcutta, undertook the preparation of this article. During the war period, owing to the heavy reduction in imports, large demands for liver extracts were placed with the late Department of Supply, Government of India. This gave a fillip to indigenous production, and while the pre-war units expanded their output, a number of new units also came into existence. At the present time, there are twenty-one pharmaceutical works undertaking the production of liver extracts. On the basis of figures furnished by these units themselves, their rated capacity is equal to 381.67 lakh c.cs. of injectible material, *plus* 10.47 lakh lbs. of liver extract for oral use. In 1949, the actual production was 92.36 lakh c.cs. of the injectible material and 2.49 lakh lbs. of the orally usable extract. The actual production in that year was thus 24.19 per cent. of the rated capacity in the case of the injectible material and 23.78 per cent. in the case of the orally usable extract.

Raw materials.

6. (a) The main raw materials required for the preparation of oral and injectible liver extracts are:-

(i) raw liver,
(ii) alcohol,
(iii) glycerine,
(iv) papain, and
(v) phenol.

Raw liver is the basic raw material for the manufacture of liver extracts. Most of the producers have stated that raw liver is available locally in fairly sufficient quantities. The Panel on Fine Chemicals, Drugs and Pharmaceuticals set up by the late Planning and Development Department of the Government of India in 1945, in paragraph 25 of its report, stated that the amount of glandular material obtainable from the slaughter-houses in the big cities of India would be adequate to meet the greater part of the country's requirements for insulin, thyroid, adrenaline and posterior pituitary extracts, liver extracts, etc. It is, however, necessary that the liver must be of good quality depending upon the health of the animal slaughtered. It is also necessary that such liver should be collected from the slaughter-houses under proper hygienic conditions. At the public inquiry, it was admitted by the representatives of producers that satisfactory hygienic conditions did not at present exist in our slaughter-houses. Moreover, raw livers are obtained only from a few centres on account of lack of adequate facilities for collection at the slaughter-houses and also due to non-availability of refrigerated wagons for transporting raw livers from the various centres. The supply position in respect of raw liver could be considerably improved if steps were taken towards making these facilities available for the industry. It was also pointed out that if the demand for liver extract increased in future, the indigenous supply of liver might be supplemented by imports from foreign countries. Of the remaining raw materials, alcohol, glycerine and papain are available within the country, while phenol is mainly obtained from the U.K. and the U.S.A.

(b) For the manufacture of compounds, the form in which liver extract is mainly marketed, various additional ingredients are required to be added. Among these may be mentioned vitamin A, various complexes of vitamin B, vitamin C and vitamin D. Most of these are at present imported mainly from the U.S.A. and Switzerland. It was stated that such vitamins were also obtainable from the U.K. but that the prices were rather high.

(c) Apart from vitamins, certain other materials, such as casein, blood or haemoglobin, iron-ammonium citrate and folic acid are also added for the manufacture of compounds. Casein and folic acid are imported, while the remaining materials are obtainable in the country.

Process of manufacture.

7. (a) For preparing oral liver extracts, fresh liver is cleaned of extraneous tissues, washed and minced. The minced liver mass is digested at a suitable temperature with papain in water. The extract is purified, filtered and concentrated in vacuum stills to a syrupy liquid. The liquid extract is directly used for the preparation of compound products or is further dried to a solid form in vacuum driers, and the dried mass is pulverized to a powder which can further be used for the preparation of compound products. We understand that this is the process more commonly used in India. According to another process, which is also used in a number of factories, the active principle of raw liver is extracted by means of acidulated alcohol. The liquid extract is clarified and concentrated to a syrupy consistency for use in oral preparation or dried to a powder which may be used in certain preparations.

(b) For manufacturing parenteral or injectible liver extracts, the minced liver is extracted and the extract concentrated in vacuum stills and purified for the removal of protein matter, generally by the process of repeated solution in water and precipitation with alcohol. The final precipitate is dissolved in distilled water and used in the manufacture of injectible liver extract.

(c) In order to introduce additional properties, liver extract is compounded with various ingredients, such as folic acid, vitamin B complexes, iron salts, etc., and sold in the form of compound products under different brands or trade names.

Uses of the product.

8. Extract of liver, also known as extract hepatis, contains the specific principle of liver which increases the number of red corpuscles in the body of persons suffering from pernicious anaemia. In secondary anaemia, treatment with liver extract is less satisfactory, but when it is given in conjunction with iron salts, considerable improvement is noticed. It is useful in the treatment of anaemia due to pregnancy, tape-worms and hook-worms. It is also used to neutralise the undesirable effects caused by administration of arsenic and bismuth preparations.

Estimated Indian demand.

9. The accounts of our sea-borne import trade do not contain a separate entry for liver extract, the article being included in a miscellaneous class called 'Chemicals, drugs and medicines, all sorts not otherwise specified'. Owing to this gap in the statistical records of the import trade, it has been difficult for us to form an estimate of the demand for this article. In the report of the Panel on Fine Chemicals, Drugs and Pharmaceuticals, set up by the late Planning and Development Department of the Government of India in 1945, it has been stated that, in order to make the country self-sufficient in respect of liver extract, there should be a production target of 50 million c.cs. of injectible liver extract and 200 million c.cs. (approximately 4,44,444 lbs.) of orally usable liver extract per annum, to be attained within a period of ten years. The report, however, does not give the data on which this target is based. We have attempted to form an estimate by obtaining the figures of imports of liver extract from the U.S.A. and the U.K. through the courtesy of the principal American and British importers and by adding thereto

the figures of indigenous production as given by the known indigenous manufacturers. These figures are shown in the following table:-

	1947	1948	1949	1950 (first four months only)
	Injectible liver extract (lakhs of c.cs.)			
Indigenous production	77	77	92	38
Imports from the U.S.A.	75	21	23	..
**Imports from the U.K.	17	17	17	..
Total	169	115	132	..
	Orally usable liver extract (lakhs of lbs.)			
Indigenous production	2.35	2.27	2.49	1.06
*Imports from the U.S.A.	0.77	0.31	0.32	..
**Imports from the U.K.	1.88	1.88	1.88	..
Total	5.00	4.46	4.69	..

The import figures relate to imports from the U.S.A. and the U.K. only. It is possible that there have been some imports from other countries as well. Making an allowance for this unknown factor, the current demand in the country may be estimated at 180 lakh to 200 lakh c.cs. of injectible material, and 5 lakh to 6 lakh lbs. of orally usable liver extract. The demand for the next three years is likely to be of the

* Besides, John Wyeth & Bros. also imported liver extract capsules amounting to 12.20 millions in 1947, 12.75 millions in 1948 and 4.60 millions in 1949.

** Average for the three years 1947, 1948 and 1949; figures supplied by the Association of British Pharmaceutical Industry, London, representing ten principal manufacturers.

order of 225 lakh c.cs. of injectible material and 6.5 to 7 lakh lbs. of orally usable liver extract.

Indigenous production.

10. As already stated, there are at present 21 factories in the country producing liver extract. A statement showing their names, locations, dates of commencement of production, rated capacity and actual production during the years 1947, 1948 and 1949 and the first four months of 1950, as given by the firms themselves, will be found in Appendix IV. The figures of aggregate rated capacity and production are stated below:-

Aggregate rated capacity	Actual production			
	1947	1948	1949	1950 (Jan.-April only)
Injectible liver extract (lakh c.cs.)				
381.67	77.32	77.36	92.86	38.03
Orally usable liver extract (lakh lbs)				
10.46	2.35	2.26	2.49	1.06

Standardization of specifications for liver extracts.

11. (A) *British and American methods.*- There does not exist at the present time any method of chemical or biological test by which the strength or quality of liver extracts can be assessed. The U.S. Pharmacopoeia and the British Pharmacopoeia have laid down two different methods of formulating standards for liver extracts, which are described below:

(i) *The U.S. Pharmacopoeia Standards.* A U.S.P. unit is the minimum amount which, when given daily to a suitable patient with pernicious anaemia in relapse will cause an adequate haematopoietic response. For the purpose of standardization, the material is given daily with proper haematological checks to at least three patients whose red blood cell counts are determined before the treatment is started, on the day it is started and on the seventh and the fourteenth days of treatment. Daily reticulocyte counts are made during

the complete period of the "reticulocyte response". These data are submitted by the manufacturers to the Anti-Anaemia Preparations Advisory Board of the United States Pharmacopoeia, which evaluates them and assigns unitage. In assigning units to preparations of liver extract or other anti-anaemia preparations, the following points are considered by the Board in conjunction with other available data from therapeutic tests conducted in the manner specified:

(a) The character and degree of the reticulocyte response;

(b) the rate of increase of red blood cells;

(c) clinical factors modifying the response; and

(d) efficiency of the method of manufacture in preserving the potency of the product.

From the above, it will be seen that the presence of the specific principle which increases the number of red blood corpuscles in the blood of persons suffering from pernicious anaemia is an index of activity of the liver preparations. There is no specific laboratory method for evaluating this activity. The only method available is the observation of the clinical effects produced by the extracts on the patients suffering from pernicious anaemia by increasing the red blood corpuscles in their blood.

(ii) *The British Pharmacopoeia Standard.*- According to the British Pharmacopoeia, "liquid extract of liver contains in 30 ml. the equivalent of 240 grammes, and in one fluid ounce the equivalent of 8 ounces of fresh liver". No standard specification has, however, been laid down in the British Pharmacopoeia for injectible liver extracts, which may be either crude or refined. It may be noted that the distinction between "crude" and "refined" is one of degree, "crude" extract being not refined to the same extent as "refined" extract. It was stated at the public inquiry that sufficient work had not yet been carried out in the U.K. in the standardization of crude liver extracts.

During recent years, however, attempts have been made to have refined liver extracts clinically tested by the trade in a manner somewhat similar to the U.S. Pharmacopoeia Standards.

(B) *Standardization in India:*

(i) *Oral liver extracts.-* These are specified according to British Pharmacopoeia Standards, that is, by indication of the raw liver contents in a specific quantity of liver extract

(ii) *Injectible liver extract.-* The injectible liver extracts are specified by the trade in terms of the amount of raw liver required for the preparation of one c.c. of the injectible extract.

Facilities for standardization by the U.S.P. method are difficult to obtain in India since pernicious anaemia is very rare in this country and indigenous liver extracts are mostly used for the treatment of tropical anaemia. A method, however, has been developed by the Indian Council of Medical Research under the Director-General of Health Services for a comparative study of the potency of various liver extract preparations by clinical trials in cases of tropical anaemia on lines similar to the U.S.P. Standards. There are at present two Hemaetological Units in the country for the standardization of liver extracts on these lines. One of these units is established in the Seth G.S.Medical College, Bombay, operating since August 1949. The other one is in the School of Tropical Medicine, Calcutta, and has been working since April, 1949. Research work is also being carried on at the Chemical, Industrial and Pharmaceutical Laboratories, Ltd., Bombay, to evolve a micro-biological method for the evaluation of the potency of liver extracts. A certain type of bacterium is allowed to grow in a medium containing liver extract. The bacterium is so selected that its growth is proportional to the strength of the liver extract contained in the medium. The comparative strengths of the various liver extracts are estimated

by comparing the rate of growth of the bacterium in each of the preparations. It is also attempted to correlate the results obtained by this method with those obtained by the clinical tests as followed by the United States Pharmacopoeia.

Quality of the indigenous product.

12. Some of the representatives of the Government and private hospitals, in their written evidence, stated that the quality of the indigenous liver extract was found to be unsatisfactory and that the manufacturers did not maintain uniform quality. The representatives of the importers also stated that the doctors as well as the direct consumers preferred the imported liver extract because of its superior quality. They also suggested that the raw material available to the indigenous industry was of inferior quality and that the finished product did not have a potency comparable to that of the imported product. During the public inquiry, however, the manufacturers claimed that their product was standardized according to the British Pharmacopoeia specifications and that it was in no way inferior to the imported article. It was admitted by them that the results of clinical trials for the Indian liver extract were not available on so extensive a scale as in the case of the imported products; but they claimed that, in so far as the results of an appreciable number of clinical trials were available, they were found to be satisfactory. It may also be mentioned that, under the Drugs Control Act, the manufacturers of liver extracts in India are required to conform to the British Pharmacopoeia Standards, which specify the quantity of raw liver required for the production of a unit of liver extract. On the basis of the evidence received by us, we consider that some of the liver extract preparations made in India are, on the whole, satisfactory. We, however, think it necessary that the inspection of liver extract factories under the Drugs Control Act should be more systematic so as to ensure that the B.P. Standards are strictly adhered to by the manufacturers and that proper hygienic conditions

are maintained throughout the manufacturing process. In addition to such control, it is also necessary that clinical trials on a much wider scale should be carried out in order to determine the potency of the indigenous products. We recommend that samples of liver extract produced by different manufacturers in the country should be collected by the inspectors and forwarded to the Haematological Units for clinical tests. In order to test the products of all the manufacturers at frequent intervals, there would be a need for a few more haematological laboratories in addition to the two already in existence and we suggest that such units should be set up at an early date. It was agreed by the manufacturers at the public inquiry that the expenses of such clinical trials should be borne by the manufacturers themselves. Apart from such quality control, we also recommend that the Ministry of Health, Government of India, should draw up a list of approved manufacturers and encourage the use of their products in the Government hospitals throughout the country.

Import control, bilateral trade agreements, and imports.

13. (a) *Import control policy.*- During the first half (January/June) of 1949, imports of liver extract from sterling and soft currency areas were governed by O.G.L. XI, while there was a ban on imports from dollar and hard currency areas. During the second half (July/December) of 1949 and the first half (January/June) of 1950, licences for imports were issued for dollar, hard, sterling and soft currency areas, subject to a monetary ceiling and on the basis of essentiality, the ceiling being Rs. 1 lakh for the second half of 1949 and Rs. 2 lakhs for the first half of 1950. During these two periods, licences were restricted to imports of injectible liver extract only.

(b) *Bilateral trade agreements.*- (i) By the bilateral trade agreement between India and Western Germany, India is to import during the period from 1st July 1949 to 30th June 1950, pharmaceuticals to the value of 200,000 dollars.

(ii) By another agreement with Switzerland, the Government of India undertook to issue licences during the period from 1st March 1949 to 28th February 1950, for imports of chemicals and pharmaceuticals to the value of Rs. 60 lakhs.

(c) *Imports.*- As the Sea-borne Trade Accounts of India do not separately record the statistics for liver extract, it is not possible to give accurate figures for the quantities and values of imports of this article. At the public inquiry, however, the principal importers of liver extracts from the U.S.A. and the U.K. were requested to furnish figures of their imports during the three years 1947, 1948 and 1949. These figures are reproduced below:-

	1947	1948	1949
	Injectible liver extract (Lakhs of C.Cs)		
Imports from the U.S.A.	75	21	23
Imports from the U.K.**	17	17	17
	92	38	40
	Orally usable liver extract (Lakhs of lbs.)		
Imports from the U.S.A.*	0.77	0.31	0.32
Imports from the U.K.**	1.88	1.88	1.88
	2.65	2.19	2.20

* Besides, John Wyeth & Bros. also imported liver extract capsules amounting to 12.20 millions in 1947, 12.75 millions in 1948 and 4.60 millions in 1949.

** Average for the three years 1947, 1948 and 1949; figures supplied by the Association of British Pharmaceutical Industry, London, representing ten principal manufacturers.

Existing rate of customs duty.

14. Liver extract is governed by item No. 28 of the First Schedule to the Indian Tariff Act, 1934. An extract from the Indian Customs Tariff (Thirty-first Issue), showing the rates of customs duties as in operation on 1st January 1950, is given below:-

Item No.	Name of the article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The U.K.	A British Colony	Burma	
28	Chemicals, drugs and medicines, all sorts, not otherwise specified *.	Preferential Revenue.	Rate of duty actually charged at the time for such products of the U.K. or British Colonial origin *plus* 10 per cent *ad valorem*.	26 per cent *ad valorem*	26 per cent *ad valorem*.	10 per cent *ad valorem*.	

* These are G.A.T.T. items.

C.i.f. prices and landed costs.

15. The Board requested the Collectors of Customs and the leading importing firms to furnish information regarding the latest landed costs of liver extract products. In most instances, however, the information supplied pertains to imports from the U.S.A. prior to devaluation. A statement giving the latest available c.i.f. prices and landed costs of some of the imported liver extract preparations, comparable with the indigenous products, will be found in Appendix V.

Board's estimate of cost of production and fair selling price.

16. The Cost Accounts Officer, attached to the Board, investigated the cost of production of both oral and injectible liver extracts and their compounds manufactured by Messrs. Alembic Chemical Works Co. Ltd., Baroda, for 1949 (year ended 31st December), and Andhra Pharmaceutical Works, Ltd., Bezwada, for 1949-50 (year ended 31st March). The estimates for 1950 in the case of the Alembic Chemical Works and those for 1950-51 for Andhra Pharmaceutical Works have also been worked out on the basis of the rated capacity of each factory on a single-shift basis. As the manufacturers have requested that the details of their cost of production should be treated as confidential, such details are not given in this report but are being forwarded to Government in a separate confidential enclosure. The over-all figures of fair selling prices of such of their products as are comparable with the imported articles, are given in Appendix VI. In arriving at the fair selling prices, provision has been made for both interest on working capital and return on the block capital employed, at the rate of 10 per cent. on the cost of production. Such a procedure was followed in this matter, because the fixed assets required for the manufacture of liver extract could not be separately estimated.

Comparison of landed costs with fair selling prices.

17. A strict comparison of the indigenous and imported liver extracts is not possible because there are no absolute units for the expression of the strength of liver extract. Further, the formulae for the liver extract preparations differ from product to product, and any comparison of the indigenous product with the imported article can, at best, be only an approximation. A comparison of the landed costs of such of the imported liver extracts products as are approximately comparable in strength and potency with those produced by indigenous manufacturers, as agreed to by the manufacturers and importers during the public inquiry, and the fair selling prices of the indigenous products as estimated by us,

is given in a statement in Appendix VII. From this statement, it will be found that, of the ten cases given in the list, only in one case the landed cost, ex-duty, is lower than the fair selling price. In the remaining nine cases, the landed cost, ex-duty, is in excess of the fair selling price by 6.3 per cent., 24.1 per cent., 56.5 per cent., 58.8 per cent., 59.1 per cent., 60.8 per cent., 61.2 per cent., 81.7 per cent., and 85.4 per cent. It will be noted that out of the ten cases, in five cases, the landed cost, ex-duty, is in excess of the fair selling price by about 60 per cent. and in two cases by over 80 per cent.

No case for protection.

18. From the figures given in the preceding paragraph, it is found that, on the basis of a price comparison, there is no case for protection to the liver extract industry, the fair selling prices of indigenous products being appreciably below the landed costs, ex-duty, of comparable imports. Even if an allowance at the rate of, say, 25 per cent., were made for prejudice, it would still be possible for the indigenous manufacturers to sell their products at competitive prices. Besides, the current revenue duties of 36 per cent. (standard) and 26 per cent. (preferential) would give an additional cover to the indigenous products. In view of this position of comparative prices, which is definitely favourable to the indigenous products, we consider that the claim for protection to the liver extract industry is not justified, and accordingly we do not recommend any protection.

Other assistance.

19. In paragraph 12 above, we have recommended that a few more standardization centres for liver extracts should be established in the country so as to provide facilities for the manufacturers to get their products standardized in such laboratories. We have also recommended that the Ministry of Health should encourage the indigenous liver extract industry by recommending the use of the indigenous product in all hospitals. We have further suggested that inspection of liver extract factories should be frequent and systematic so as to ensure that proper hygienic conditions are maintained and the British

Pharmacopoeia Standards are strictly adhered to. We further recommend that the municipalities concerned should maintain proper hygienic conditions and examine the possibility of providing cold storage facilities at the slaughter-houses from which raw liver is supplied for the liver extract industry. The manufacturers stated that they were sometimes handicapped for lack of adequate supplies of vitamins required for the preparation of liver extract compounds and requested that licences for imports of such vitamins should be liberally granted. We consider this request to be reasonable and recommend that it should be viewed with sympathy at the time of giving licences for imports.

20. Our conclusions and recommendations are summarised as under:-

Summary of conclusions and recommendations

(i) The scope of the present inquiry includes oral and injectible liver extracts and their compounds. (Paragraph 4)

(ii) The rated capacity of the existing units of the liver extract industry is equal to 381.67 lakh c.cs. of injectible material, *plus* 10.47 lakh lbs. of liver extract for oral use. In 1949, the actual production was 92.36 lakh c.cs. of the injectible material and 2.49 lakh lbs. of the orally usable extract (Paragraphs 5 & 10)

(iii) All the raw materials required for the preparation of liver extract are available within the country, except phenol, vitamin A, complexes of vitamin B, vitamin C and vitamin D, casein and folic acid, which are imported. (Paragraph 6)

(iv) The demand for liver extract for the next three years is likely to be of the order of 225 lakh c.cs. of the injectible material and 6.5 to 7 lakh lbs. of orally usable liver extract. (Paragraph 9)

(v) On the basis of the evidence received by us, we consider that some of the liver extract preparations made in India are, on the whole, satisfactory. (Paragraph 12)

(vi) The inspection of liver extract factories under the Drugs Control Act should be more systematic so as to ensure that the B.P. Standards are strictly adhered to by the manufacturers and that proper hygienic conditions are maintained throughout the manufacturing process. (Paragraph 12)

(vii) Samples of liver extract produced by the different manufacturers should be collected by the Inspectors and forwarded to the Haematological Units for clinical tests. In addition to the two existing Haematological Units, a few more such units should be established at an early date in order to test the products of all the manufacturers at frequent intervals. (Paragraph 12)

(viii) The Ministry of Health, Government of India, should draw up a list of approved manufacturers and encourage the use of their products in the Government hospitals throughout the country. (Paragraph 12)

(ix) On the basis of a price comparison, there is no case for protection to the liver extract industry, the fair selling prices of the indigenous products being appreciably below the landed costs, ex-duty, of comparable imports. (Paragraph 18)

(x) The municipalities concerned should maintain proper hygienic conditions and examine the possibility of providing cold storage facilities at the slaughter-houses from which raw liver is supplied for the liver extract industry. (Paragraph 19)

(xi) Licences for imports of such vitamins as are required for the preparation of liver extract compounds should be liberally granted. [Paragraphs 6(b) and 19)]

Acknowledgements. 21. We wish to thank the representatives of the manufacturers, importers and consumers for furnishing valuable information and tendering evidence at the public inquiry. Our thanks are also due to Dr. D.C. Sen of

the Directorate-General of Industries & Supplies, Mr. S.S. Mehta, our Technical Adviser, and Mr. N. Krishnan, Cost Accounts Officer attached to the Board, for their assistance in connection with the inquiry.

H. L. DEY,
President.

B. V. NARAYANASWAMY,
Member.

R. DORAISWAMY,
Secretary.

Bombay,
The 17th June, 1950.

APPENDIX I

(*Vide* Paragraph 1)

GOVERNMENT OF INDIA

MINISTRY OF COMMERCE

New Delhi, the 12th May, 1949.

RESOLUTION

Tariffs

No. 1-T(4)/49.- In pursuance of paragraphs 2 and 7 of their Resolution in the Department of Commerce No. 218-T(55)/45, dated the 3rd November 1945, and paragraph 4 of their Resolution bearing the same number, dated the 16th February 1946, the Government of India have decided to refer to the Tariff Board for investigation applications for assistance or protection received from the following industries:-

1. Liver extract, and
2. Sago.

2. In conducting the enquiries, the Board will be guided by the principles laid down in paragraph 5 of the Resolution dated the 3rd November, 1945, referred to in paragraph 1 above.

3. Firms or persons interested in any of these industries or in industries dependent on the use of these articles who desire that their views should be considered by the Tariff Board should address their representations to the Secretary to the Board, Contractor Building, Ballard Estate, Nicol Road, Bombay.

(Sd.) S. RANGANATHAN,
Joint Secretary.

APPENDIX II

(*Vide* Paragraph 3)

List of firms, persons and Associations, to whom relevant questionnaires were issued and those who replied to them or sent memoranda.

* Those who have replied to the questionnaire.

@ " " " " to the rated capacity form.

ℊ " " " " sent a memorandum.

P " " " " replied to the preliminary questionnaire.

N Not interested.

PRODUCERS:

@* 1. Andhra Pharmaceutical Works Ltd.,
P.O. Ramavarapadu,
Vijayawada, S.I.

@ 2. Arcies Laboratories Ltd.,
Western India House,
Sir P.M. Road,
Bombay.

@* 3. Alembic Chemical Works Co. Ltd.,
Baroda.

4. Albert David Ltd.,
15, Chittaranjan Avenue,
Calcutta.

@ 5. Bengal Immunity Co.,
153, Dharamtola Street,
Calcutta.

@* 6. Bengal Chemical & Pharmaceutical Works Ltd.,
94, Chittaranjan Avenue,
Calcutta.

7. Butto Kristo Paul & Co.,
(Research Laboratories) Ltd.,
1 & 3, Bonfield Lane,
Calcutta.

@ 8. Bombay Pharmaceutical Works,
Mathura Bhuvan, Dadar Main Road,
Bombay.

@P 9. Cipla Ltd.,
289, Bellasis Road,
Byculla, Bombay.

@ 10. Chemo-Pharma Laboratories,
23-Club Back Road,
Byculla, Bombay.

@ 11. Edisons Continental Laboratories Ltd.,
(formerly Continental Drugs Company),
135, Dr. Annie Besant Road,
Worli, Bombay 18.

@ 12. Government Industrial & Testing
Laboratory,
Bangalore.

@* 13. Dr. G.A. Rao, M.B.B.S.,
Proprietor,
Dr. Rao's Laboratory,
Bombay 7.

@* 14. Prof. Gajjar's Standard Chemical Works Ltd.,
Dadabhai Cross Road,
Versova Road, Andheri, Bombay.

@P 15. Indian Health Institute & Laboratory Ltd.,
1, Garandanga Road,
Dum Dum, West Bengal.

C 16. Indian Chemical Manufacturers' Association,
23-B, Netaji Subhas Road,
Calcutta.

17. Magora Chemicals,
Poona.

18. Nilkanth Pharmacy Poona Ltd.,
Poona.

P@ 19. Raptaoos Brett & Co. Ltd.,
Dr. Annie Besant Road,
Worli, Bombay.

@* 20. Standard Pharmaceutical Works,
67, Dr.Suresh Sarkar Road,
Calcutta 14.

@* 21. Sanitex Chemical Industries Ltd..
Chemical Industries P.O.,
Industrial Area, Gorwa Road,
Baroda-3.

22. Sarabhai Chemicals,
Baroda.

@ 23. Sigma Laboratories,
Manufacturing Chemist,
27, Mogul Lane, Mahim,
Bombay.

@P 24. Teddington Chemical Factory Ltd.,
United India Building,
Sir P.M. Road, Bombay.

N 25. T.M. Thakore & Co.,
43, Churchgate Street,
Fort, Bombay.

@ 26. Union Drug Co.Ltd.,
285, Bow Bazaar Street,
Calcutta.

@ 27. Unichem Laboratories,
Mahalakshmi,
Bombay.

N 28. W.T. Suren & Co. Ltd.,
United Indian Building,
Sir P.M. Road,
Bombay.
(Selling agents for Teddington Chemical Factory).

@ 29. Zandu Pharmaceutical Works Ltd.,
Gokhale Road,
P.O.Box No. 5513,
Bombay.

IMPORTERS:

¢ 1. Association of British Pharmaceutical Industries, Tavistock House, Tavistock Square, London, W.C.I.

¢ 2. Association of British Chemical Manufacturers, Janmabhoomi Chambers, Fort Street, Bombay.

* 3. Allen & Hanburys Ltd., P.O. Box No. 2198, D-3, Clive Building, Calcutta.

* 4. British Drug House (India) Ltd., Imperial Chemical House, Graham Road, Ballard Estate, Bombay.

* 5. Boots Pure Drug Co. (India) Ltd., P.B. No. 680, Asian Building, Nicol Road, Ballard Estate, Bombay.

6. Bayer Products Ltd., C/o. Mac Laboratory Ltd., 98, Zaveri Bazaar, Bombay 2.

* 7. Chowgule & Co. Ltd., Lentin Chambers, Dalal Street, Bombay.

* 8. The Eastern Importing Co., New Citizen Bank Building, Parsee Bazaar Street, Fort, Bombay.

* 9. Evans Medical Supplies (India) Ltd., Lakshmi Building, Sir P.M. Road, Bombay.

* 10. E.R. Squib, C/o Martin & Harris Ltd., Savoy Chambers, Wallace Street, Bombay.

* 11. Eli Lilly & Co., Elphin House, Prabhadevi Road, Bomay 28.

12. Fair Deal Corporation Ltd., Pos [illegible] Calcutta.

* 13. Glaxo Laboratories, C/o H.J. Foster & Co. Ltd., Worli, Bombay.

* 14. Hill Elliot & Co. Ltd., 15, Graham Road, P.B. 760, Bombay.

15. Howards Ltd., Ewart House, Bruce Street, Bombay.

16. Infa Ltd., Janmabhoomi Chambers, Fort Street, Ballard Estate, Bombay.

* 17. Lederle Laboratories (India) Ltd., Adelphi, Queens Road, Bombay.

* 18. Muller & Phipps (India) Ltd., Queen Mansions, Bastion Road, Fort, Bombay.

N 19. May & Baker Ltd., Sir P.M. Road, Bombay.

* 20. Parke Davis & Co., Canada Building, Hornby Road, Fort, Bombay.

* 21. Sharpe & Dome, C/o Volkart Bros., Fort, Bombay.

* 22. T.M. Thakore & Co., 48, Churchgate Street, Fort, Bombay.

CONSUMERS:

N 1. Bombay Medical Union, Balvatsky Lodge Building, French Bridge, Chowpatti, Bombay.

N 2. Bombay Medical Association, 72, Vijay Nagar, Dadar, Bombay 17.

3. Chimanlal & Co., Gowli Guda, Hyderabad, Deccan.

4. Chunilal Mehta, Three Gates, Ahmedabad.

* 5. Cuttack Medical College Hospital, Cuttack.

* 6. Calcutta Medical College Hospital, 301, Upper Circular Road, Calcutta.

7. The Express Trading Co., 13/34, Arya Samaj, Karol Bagh, New Delhi.

8. Egmore Hospital, Madras.

* 9. Government Medical Stores Depot, Byculla, Bombay.

* 10. Government Medical Stores, Madras.

11. Government Hospital, Orissa.

* 12. Government Hospital, Sambalpore, Orissa.

* 13. Harkissondas Hospital, Charni Road, Bombay.

* 14. J.J. Group of Hospitals, Bombay.

* 15. K.E.M. Hospital, Parel Road, Bombay.

16. King George Hospital, Vizagapatam.

* 17. Lake Medical Hospital, Lake Area, Rashbihari Avenue Post, Ballygunj, Calcutta.

18. Marathe Brothers, Raopura, Baroda.

19. Methodist Mission Hospital, Medak.

20. Mayur Bhanj State Hospital, Baripada, (Orissa)

21. Royapethah Government Hospital, Madras.

22. Raipur Government Hospital, Raipur (C.P.).

23. Sheth Brothers, Maharani Road, Indore City.

* 24. St. George's Hospital, Frere Road, Bombay.

* 25. Superintendent, Calcutta Medical College Hospital, College Street, Bow Bazaar, Calcutta.

26. Universal Medical Stores, 107, Princess Street, Bombay 2.

27. Vizag Medical College Hospital, Vizag.

GOVERNMENT DEPARTMENTS & OTHERS:

¢ 1. Directorate General of Industries & Supplies, Shahjahan Road, New Delhi.

¢ 2. Director, Haffkine Institute, Old Government House, Parel, Bombay.

¢ 3. Director of Industries, Bombay.

¢ 4. Drugs Controller, Contractor Building, Nicol Road, Ballard Estate, Bombay.

* 5. Director General of Health Services, New Delhi.

¢ 6. Indian Research Fund Association, Ministry of Health, New Delhi.

¢ 7. Indian Pharmaceutical Association, (Bombay Provincial Branch), Department of Chemical Technology, Matunga Road, Bombay 19.

In addition, questionnaires were also issued to all the Directors of Industries, State Governments and Chief Commissioner's Provinces and the Chambers of Commerce and other Trade Associations.

APPENDIX III

(*Vide* Paragraph 3)

List of persons who attended the public inquiry and gave evidence on 9th May, 1950.

	Names of the representatives
I. PRODUCERS:	
1. Andhra Pharmaceutical Works Ltd., P.O. Ramavarapadu, Vijayawada.	Shri B. Krishnamurti .
2. Alembic Chemical Works Co.Ltd., Baroda.	Shri I.S. Amin. Shri H.S. Amin.
3. Bengal Chemical & Pharmaceutical Works Ltd., 94,Chittaranjan Avenue, Calcutta.	Shri Saroj Mohan Dutt.
4. Cipla Ltd., 289, Bellasis Road, Byculla, Bombay.	Shri Ajoy Gupta.
5. Edisons Continental Laboratories Ltd., (formerly: Continental Drugs Co.), 135, Dr. Annie Besant Road, Worli, Bombay 18.	Shri Shaikh
6. Indian Chemical Manufacturers' Association, 23-B, Netaji Subhas Road, Calcutta.	Shri Ajoy Gupta of Ciplas, Bombay. Shri H.S. Ramanathan.
7. Standard Pharmaceutical Works, 67, Dr. Suresh Sarkar Road, Calcutta 14.	Shri K. George.
8. Sanitex Chemical Industries Ltd., Chemical Industries P.O., Industrial Area, Gorwa Road, Baroda 3.	Shri Manibhai B. Amin. Shri T.B. Desai.
9. Teddington Chemical Factory Ltd., United India Building, Sir P.M. Road, Bombay.	Shri W. Seyd.
II. IMPORTERS:	
1. Association of British Chemical Manufacturers, Janmabhoomi Chambers, Fort Street, Bombay.	Shrimati C.M. Coulthard.
2. Allen & Hanburys Ltd., P.O.Box No.2198, D-3, Clive Building, Calcutta.	Shri W.C. Caswell.

3. British Drug Houses (India) Ltd., Imperial Chemical House, Graham Road, Ballard Estate, Bombay.	Shri F.W. Griffin.
4. Boots Pure Drug Co. (India) Ltd., P.B.No.680, Asian Building, Nicol Road, Ballard Estate, Bombay.	Shri N.P. Roberts.
5. Eli Lilly & Co., Elphin House, Prabhadevi Road, Bombay 28.	Shri H.C. Fullaway. Shri J.V. Gadgil.
6. Glaxo Laboratories (India) Ltd., Worli, Bombay.	Shri R.A. Haryott.
7. Lederle Laboratories (India) Ltd., Adelphi, Queens Road, Bombay.	Shri V.R. Swamy.
8. Parke & Davis, Canada Building, Hornby Road, Fort, Bombay.	Shri J.A. Swenarton. Shri A.B. Murthi.

III. CONSUMERS.

1. Bombay Medical Association, 72, Vijayanagar, Dadar, Bombay 14.	Dr. S.V. Oak.
2. Government Medical Stores, Depot, Byculla, Bombay.	Shri S.K. Guha.
3. K.E.M. Hospital, Parel Road, Bombay.	Dr. R.B. Redkar.

IV. GOVERNMENT REPRESENTATIVES & OTHERS.

1. Directorate General of Industries and Supplies (Govt. of India), New Delhi.	Dr. D.C. Sen.
2. Directorate General of Health Services (Ministry of Health, Govt. of India), New Delhi.	Shri S.K. Guha.
3. Haffkine Institute, Bombay.	Dr. K. Ganapathi.
4. Drugs Controller, Government of Bombay, Contractor Building, Nicol Road, Ballard Estate, Bombay.	Shri V.R. Koppikar.
5. Superintendent of Markets and Slaughter Houses, Bombay Municipality, Crawford Market, Bombay.	Shri G.B. Shahani.

APPENDIX IV

(*vide* paragraph 10)

Statement showing the names, locations, dates of commencement of production, rated capacities and actual production of liver extract factories.

Name and location of the factory.	Date of commencement of production	Annual production capacity as declared by the factory.		Actual output							
				Injectible (In c.cs.)				Oral (In lbs.)			
		Injectible (In C.Cs.)	Oral (In lbs.)	1947	1948	1949	1950 (Jan.-April)	1947	1948	1949	1950 (Jan.-April)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Andhra Pharmaceutical Works Ltd., Ramavarapadu Vijayawada.	14-1-1937	13,76,150	20,280	2,77,142	2,50,686	2,75,230	1,20,652	2,488	3,448	4,052	2,027
2. Alembic Chemical Works, Co. Ltd., Baroda.	1933-Oral 1946-Injectible.	3,66,000	1,50,000	49,000	51,000	1,58,709	56,552	76,462	38,115	55,435	19,933
3. Arcles Laboratories Ltd., Kotkar Building, 391, Arthur Road, Bombay.	March, 1942	5,00,000	4,000	61,664	88,980	92,800	61,159	2,385	2,036	3,400	1,123
4. Bengal Chemical & Pharmaceutical Works Ltd., 164, Manikatala Main Rd., Calcutta.	1930-(Oral) 1936-(Injectible)	12,00,000	17,000	1,50,700	78,750	89,300	1,04,000	1,450	1,000	3,750	1,685
5. Bombay Pharmaceutical Works, Main Road, Dadar (G.I.P.), Bombay.	August 1946	..	3,00,000	..	..	..	..	28,471	37,211	36,300	10,650
6. Bengal Immunity Co. Ltd., 44, Goptial Tagore Road, Baranagore, 24 Parganas, W. Bengal.	1930	25,02,000	1,750	2,68,000	96,000	1,66,000	52,286	2,286	1,446	1,171	587
7. Chemical Industrial & Pharmaceutical Laboratories Ltd., 289, Bellasis Road, Byculla, Bombay.	July, 1941	14,50,000	20,000	5,28,080	5,54,960	..	3,51,750	8,180	8,107	..	3,256

APPENDIX IV.- contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
8. Chemo-Pharma Laboratories Ltd., Kings Lodge, Lamington Road, Byculla (and Vile Parle), Bombay.	1944	3,60,000	3,000	1,50,780	1,80,540	1,21,950	1,20,708	2,808	2,314	1,509	4,358
9. Dr. Rao's Laboratories, Jatha Street, Near Bombay Central, Bombay.	May, 1945	25,00,000	6,000	..	..	30,000	..	..	..	200	..
10. Edisons Continental Laboratories Ltd. (Formerly Continental Drug Co.), 136, Dr. Annie Besant Road, Next to Worli, P.O. Bombay 18.	1941	124,00,000	20,000	12,98,000	11,87,320	9,43,168	3,75,000	1,400	1,200	1,090	605
11. Indian Health Institute and Laboratory Ltd., 1, Garandanga Road, Dum Dum, W.Bengal.	1936	3,50,000	1,000	40,000	57,000	95,000	20,000	395	293	403	128
12. Mysore Industrial and Testing Laboratory Ltd., I.T.I. Buildings, Malleswaram, Bangalore.	..	4,00,000	4,000	65,000	95,500	90,000	53,814	2,045	1,342	520	126
13. Prof. Gajjar's Standard Chemical Works Ltd., Varsova Road, Andheri, Bombay.	..	4,22,900	8,375	..	55,400	1,40,966	68,214	..	1,967	2,792	1,120
14. Raptakos Brett & Co. Ltd., Worli Road, Worli, Bombay.	June, 1941	5,20,400	32,740	4,42,000	2,41,000	1,54,000	90,966	27,294	25,360	25,347	9,589
15. Sanitex Chemical Industries, Baroda.	June, 1949	25,00,000	1,50,000	..	..	47,000	7,460	..	..	5,080	925
16. Signa Laboratories, 241, Mogull Lane, Matunga, Bombay 19.	July, 1947.	..	12,000	..	..	..	..	22,500	4,000	5,500	2,150
17. Standard Pharmaceutical Works Ltd., 57, Dr. Suresh Sarkar Road, Calcutta 14.	1941	1,80,000	24,000	1,70,000	1,75,000	72,000	850	18,000	22,000	9,140	2,560

APPENDIX IV.- concld.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
18. Teddington Chemical Factory, Cartar Road, Andheri, Bombay.	1940	100,00,000	1,67,125	39,54,050	43,57,954	64,75,194	22,26,523	48,499	61,174	75,750	40,486
19. Unichem Laboratories, 22, Warden Road, Bombay 26.	January 1944	..	30,000	..	..	..	..	9,230	12,300	15,375	4,020
20. Union Drug Co. Ltd., 182, Rai Bahadur Road, Behala, 24 Parganas, W.Bengal.	1937	6,00,000	500	1,98,923	1,70,764	2,38,000	82,000	80	90	100	12
21. Yandu Pharmaceutical Works Ltd., Gokhale Road, P.O. Box No. 5513, Bombay.	1945	3,00,000	15,000	58,860	95,400	44,235	11,600	1,532	2,605	2,879	732
Total		381,67,450	10,46,750	77,32,154	77,38,284	92,36,052	38,03,636	2,35,275	2,26,510	2,49,463	1,06,084

APPENDIX V

(vide paragraph 15)

Statement showing the latest available c.i.f. prices and landed costs of some of the imported liver extract preparations approximately comparable with the indigenous products.

Name of imported product.	ORAL			INJECTIBLE						
	Powder Liver Extract Eli Lilly & Co. 5 gms. vial	Bepron John Wyeth 1 Lb. bottle.	Hepatex Evans 4 oz. bottle.	Liver Extract 5 usp/c.c. Upjohn Box of 5 amps. X 2 c.c.	Liver Extract crude 2 usp/c.c. Upjohn 10 c.c. vial	Liver Extract purified (Jactate) Upjohn 30 c.c. vial	"Bedome" 5 usp/c.c. Sharpe & Dohme 10 c.c. vial	"Bedome" 15 usp/c.c. Sharpe & Dohme 10 c.c. vial	"Betalin Complex" Eli Lilly & Co., 10 c.c. vial	Folvite C liver 2 usp/c.c. Lederle Labs. 10 c.c. vial
Imports from	U.S.A. (Quotation)	U.S.A.	U.K.	U.S.A.	U.S.A.	U.S.A.	U.S.A.	U.S.A.	U.S.A. (Quotation)	U.S.A.
	(*) Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	(*) Rs.	(*) Rs.	(*) Rs.	Rs.
(a) C.I.F.	0 15 8	7 5 3	7 10 6	7 14 0	2 14 8	6 10	5 0 6	14 5 11	2 14 7	2 8 0
(b) Customs duty @ 36% for imports from U.S.A. and 26% for imports from U.K.	0 5 8	2 10 5	1 15 11	2 13 4	1 1 0	2 5 5	1 13 0	5 2 9	1 0 10	0 14 7
(c) Landing and clearing charges.	0 0 2	0 1 2	0 1 3	0 1 3	0 0 6	0 1 0	0 0 10	0 2 4	0 0 6	0 0 5
(d) Landed cost with customs duty.	1 5 6	10 0 10	9 11 10	10 12 7	4 0 2	8 13 3	6 14 4	19 11 0	3 15 11	3 7 0
(e) Landed cost ex-customs duty.	0 15 10	7 6 5	7 11 11	7 15 3	2 15 2	6 7 10	5 1 8	14 8 3	2 15 1	2 8 5

Note.- (i) C.i.f. prices shown are the latest available. (ii) Items marked (*) are at current exchange rates (actual imports not effected), others are for imports prior to devaluation for which no adjustments have been made. (iii) In the case of item 1, "Powder Liver Extract" the imported packing unit is 4 gms. vials; but this has been "converted" to 5 gms. to facilitate comparison.

APPENDIX VI

(*vide* paragraph 16)

Statement showing the fair selling prices of indigenous liver extract products which are comparable approximately with imported products.

No.	Name of Product	Packing Unit	THE ALEMBIC CHEMICAL WORKS CO. LTD., BARODA — Fair Selling price 1949 (Actual)	Fair Selling price 1950 (Estimate)	THE ANDHRA PHARMACEUTICAL WORKS LTD., VIJAYAWADA — Name of Product	Packing Unit	Fair Selling price 1949/50 (Actual)	Fair Selling price 1950/51 (Estimate)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Rs.	Rs.			Rs.	Rs.
			ORALS					
1.	Hepagest	Bottle of:						
		5 cms.	0 6 8	0 6 3				
		20 "	1 0 2	0 14 3				
		150 "	2 2 5	1 13 8				
		175 "	6 7 2	5 6 6				
2.	Hepabin	Bottle of:			Livosan B.	Bottle of:		
		1 lb.	7 0 9	6 15 1		-	-	-
		8 ozs.	-	-		8 ozs.	4 14 4	4 4 0
		4 ozs.	2 0 10	2 0 5		4 "	2 9 11	2 5 0
3.	Livules	Bottle of:						
		21 Capsules	1 10 9	1 14 4				
		42 "	2 15 4	3 6 5				
		84 "	5 8 10	6 7 9				
4.	Livules cum Folic Acid.	Bottle of :						
		21 Capsules	2 9 5	2 12 10				
		42 "	4 12 8	5 3 5				
		84 "	9 3 6	10 1 1				
5.					Livosan (plain)	Bottle of:		
						8 ozs.	7 4 2	6 1 1
						4 "	3 12 11	3 3 5

APPENDIX VI.- concld.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
						Bottle of:		
6.					Protosan	8 Ozs.	4 12 11	4 5 2
						4 "	2 9 10	2 5 5
				INJECTIONS				
		Box of:				Box of:		
7.	Hemolon	2 c.c. 6 amps.	1 11 6	1 8 4	Livosan (plain)	2 c.c. 6 amps.	0 12 11	0 11 8
		10 c.c. bulb	1 6 0	1 3 8		10 c.c. vials.	0 11 1	0 10 1
		30 c.c. "	2 15 7	2 9 3		-	-	-
		box of				Box of		
		5 c.c. 6 amps.	-	-		5 c.c. 6 amps.	1 5 6	1 3 6
8.	Hemolon cum Folic Acid.	10 c.c. bulbs	2 15 3	2 11 11				
		30 c.c. bulbs	7 4 4	6 11 1				
		Box of:				Box of:		
9.	Livibee	2 c.c. 6 amps.	-	-	Livosan T.	2 c.c. 6 amps.	1 4 10	1 4 4
		10 c.c. bulbs	1 15 1	2 3 10		10 c.c. vials	1 1 4	1 1 0
		30 c.c. bulbs	4 8 4	5 5 3		-	-	-

APPENDIX VII

(vide paragraph 17)

Statement showing the comparison of landed costs of such of the imported liver extract products as are approximately comparable in strength and potency with those produced by indigenous manufacturers, and the fair selling prices of indigenous products.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(a) C.I.F.	0 15 8	7 5 3	7 10 6	7 14 0	2 14 6	6 8 10	5 0 6	14 5 11	2 14 7	2 6 0
(b) Customs duty	0 5 8	2 10 5	1 15 11	2 15 4	1 1 0	2 5 5	1 15 0	5 2 9	1 0 10	0 14 7
(c) Landing and clearing charges	0 0 2	0 1 2	0 1 3	0 1 3	0 0 6	0 1 0	0 0 10	0 2 4	0 0 6	0 0 5
(d) Landed cost with customs duty	1 5 0	10 0 10	9 11 10	10 12 7	4 0 2	8 13 3	6 14 4	19 11 0	3 15 11	3 7 0
(e) Landed cost ex-customs duty	0 15 10	7 6 5	7 11 11	7 15 3	2 15 2	6 7 10	5 1 4	14 8 3	2 15 1	2 5 5
(f) Fair selling price (*)	0 6 3	6 15 1	3 3 5	1 6 4	1 3 9	2 9 3	2 3 10	2 3 10	2 3 10	2 11 11
(g) Excess of landed cost ex-duty over fair selling price.	0 9 7	0 7 4	4 8 6	5 6 11	1 11 5	3 14 7	2 13 6	12 4 5	0 11 3	(-) 0 3 6
(h) Excess of landed cost ex-duty over fair selling price as %age on c.i.f.	61.2%	6.3%	59.1%	61.7%	68.6%	60.8%	56.5%	85.4%	24.1%	(-) 8.7%
(i) Excess of landed cost with duty over fair selling price.	0 15 3	3 1 9	6 6 5	9 4 8	2 12 5	6 14 0	4 10 6	17 7 2	1 12 1	0 11 1
(j) Excess of landed cost with duty over fair selling price as %age on c.i.f.	97.3%	42.4%	85.1%	117.7%	95.2%	97.2%	92.6%	121.4%	80.3%	27.7%
(*) Comparable indigenous product	Hepagest (Alembic)	Hepabin (Alembic)	Livosan plain (Andhra)	Hemolon (Alembic)	Hemolon (Alembic)	Hemolon (Alembic	Livibee (Alembic)	Livibee (Alembic)	Livibee (Alembic)	Hemolin-cum Folic Acid (Alembic)

Note – (i) Fair selling prices adopted are the highest estimated future Fair Selling Prices of the comparable products between Alembic Chemical Works and Andhra Pharmaceuticals. (ii) It was not possible to compare all the indigenous preparations due to non-availability of c.i.f. prices and also due to the difference in packing of some of the imported products.


सत्यमेव जयते